



**ENVIRONMENTAL PROTECTION AGENCY**

**40 CFR Part 60**

**[EPA-HQ-OAR-2009-0734; FRL-9913-22-OAR]**

**RIN 2060-AP93**

**Standards of Performance for New Residential Wood Heaters, New Residential Hydronic Heaters and Forced-Air Furnaces, and New Residential Masonry Heaters**

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Proposed rule; Notice of Data Availability.

**SUMMARY:** The Environmental Protection Agency (EPA) is issuing this Notice of Data Availability (NODA) in support of the proposed rule titled, “Standards of Performance for New Residential Wood Heaters, New Residential Hydronic Heaters and Forced-Air Furnaces, and New Residential Masonry Heaters” that was published on February 3, 2014. Through this NODA, the EPA is making available to the public, and soliciting comment on, the specific additional information on residential wood heater testing and certification that has been added to the docket for the proposed rule. This comment period is limited to comments on the specific data added and issues that relate to this data; it is not an additional period to comment on other aspects of this proposed rule.

**DATES:** Comments must be received on or before **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

**ADDRESSES:** *Comments.* Submit your comments, identified by Docket ID No. EPA-HQ-OAR-2009-0734, by one of the following methods:

- *www.regulations.gov:* Follow the on-line instructions for submitting comments.

- Email: *a-and-r-docket@epa.gov*, Attention Docket ID No. EPA-HQ-OAR-2009-0734.
- Fax: (202) 566-9744, Attention Docket ID No. EPA-HQ-OAR-2009-0734.
- Mail: United States (U.S.) Postal Service, send comments to EPA Docket Center, WJC West Building (Air Docket), Attention Docket ID Number EPA-HQ-OAR-2009-0734, U.S. Environmental Protection Agency, Mailcode: 28221T, 1200 Pennsylvania Ave., NW, Washington, DC 20004. Please include a total of two copies.
- Hand Delivery: EPA Docket Center, WJC West Building (Air Docket), Room 3334, 1301 Constitution Avenue, NW, Washington, DC, Attention Docket ID Number EPA-HQ-OAR-2009-0734. Such deliveries are only accepted during the Docket's normal hours of operation, and special arrangements should be made for deliveries of boxed information.

*Instructions:* All submissions must include the agency name and docket ID number (EPA-HQ-OAR-2009-0734). The EPA's policy is that all comments received will be included in the public docket without change and may be made available online at *www.regulations.gov*, including any personal information provided, unless the comment includes information claimed to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Do not submit information that you consider to be CBI, or otherwise protected, through *www.regulations.gov* or email. Instead, clearly mark the portions of the information that you claim to be CBI and send or deliver only to the following address: Roberto Morales, OAQPS Document Control Officer (C404-02), Office of Air Quality Planning and Standards, U.S. Environmental

Protection Agency, Research Triangle Park, North Carolina 27711, Attention Docket ID Number EPA-HQ-OAR-2009-0734. For CBI information on a disk or CD-ROM that you mail to the EPA, mark the outside of the disk or CD-ROM as CBI and then identify electronically within the disk or CD-ROM the specific information that you claim as CBI. In addition to one complete version of the comment that includes information claimed as CBI, you must submit a copy of the comment that does not contain the portions of the information claimed as CBI for inclusion in the public docket. If you submit a disk or CD-ROM that does not contain CBI, mark the outside of the disk or CD-ROM clearly that it does not contain CBI. Information not marked as CBI will be included in the public docket and the EPA's electronic public docket without prior notice. The portions of the information marked as CBI will not be disclosed except in accordance with procedures set forth in 40 CFR part 2.

The EPA requests that you also submit a separate copy of your comments to the contact person identified below (see **FOR FURTHER INFORMATION CONTACT**). You should send to this person only a copy of the comment that does not contain the portions of information claimed as CBI or otherwise protected.

The *www.regulations.gov* website is an "anonymous access" system, which means the EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send an email comment directly to the EPA without going through *www.regulations.gov*, your email address will be automatically captured and included as part of the comment that is placed in the public docket and made available on the Internet. If you submit an electronic comment, the EPA recommends that you include your name and other contact information in the body of your comment and

with any disk or CD-ROM you submit. If the EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, the EPA may not be able to consider your comment. Electronic files should avoid the use of special characters, any form of encryption, and be free of any defects or viruses.

*Docket:* The EPA has established a docket for this rulemaking under Docket ID Number EPA-HQ-OAR-2009-0734. All documents in the docket are listed in the [www.regulations.gov](http://www.regulations.gov) index. Although listed in the index, some information is not publicly available, *e.g.*, CBI or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, will be publicly available only in hard copy form. Publicly available docket materials are available either electronically in [www.regulations.gov](http://www.regulations.gov) or in hard copy at the EPA Docket Center, WJC West Building, Room 3334, 1301 Constitution Ave., NW, Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566-1744, and the telephone number for the Air Docket is (202) 566-1742. For additional information about the EPA's public docket, visit the EPA Docket Center homepage at [www.epa.gov/epahome/dockets.htm](http://www.epa.gov/epahome/dockets.htm).

**FOR FURTHER INFORMATION CONTACT:** Mr. Gil Wood, Office of Air Quality Planning and Standards, Outreach and Information Division, Community and Tribal Programs Group (C304-03), U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711; telephone number: (919) 541-5272; fax number: (919) 541-0242; email address: [wood.gil@epa.gov](mailto:wood.gil@epa.gov).

**SUPPLEMENTARY INFORMATION:** The information in this NODA is organized as follows:

- I. Does this action apply to me?
- II. What are the background and purpose of this NODA?

**I. Does this action apply to me?**

The entities that are potentially affected by this NODA are listed in Table 1 below. This table is not intended to be exhaustive, but to provide a guide for readers regarding entities likely to be affected by this NODA.

Table 1. Potentially Regulated Entities

| Category                 | NAICS <sup>a</sup> Code  | Examples of Regulated Entities  |
|--------------------------|--|---|
| Residential Wood Heating | 333414 - Heating Equipment (except Warm Air Furnaces) Manufacturing  | Manufacturers, owners and operators of wood heaters, pellet heaters/stoves, hydronic heaters, and masonry heaters |
|                          | 333415 - Air-Conditioning and Warm Air Heating Equipment and Commercial and Industrial Refrigeration Equipment Manufacturing | Manufacturers, owners and operators of forced-air furnaces  |
|                          | 238140 - Masonry Contractors   | Manufacturers, owners, operators and testers of masonry heaters   |
| Testing Laboratories     | 541380 - Testing Laboratories (except Medical, Veterinary)   | Testers of wood heaters, pellet heaters/stoves, hydronic heaters and masonry heaters                              |

<sup>a</sup>North American Industry Classification System

**II. What are the background and purpose of this NODA?**

On February 3, 2014, at 79 FR 6330, the EPA proposed to amend standards of performance for New Residential Wood Heaters and to add two new subparts: Standards of Performance for New Residential Hydronic Heaters and Forced-Air Furnaces and

Standards of Performance for New Residential Masonry Heaters. The EPA is issuing this NODA in support of the proposed standards. Through this NODA, the EPA is making available to the public, and soliciting comment on, additional information on residential wood heater testing and certification that has been added to the docket for the proposed rule. Specifically, we are making available the following: (1) additional details of certification testing (using crib wood) of wood stoves and pellet stoves certified by the EPA between January 1, 2010, and May 30, 2014; (2) details of cord wood testing by two manufacturers of their EPA-certified catalytic wood stoves; and (3) details of cord wood testing by Brookhaven National Laboratory (BNL), under contract to the EPA, of an EPA-certified noncatalytic wood stove.

1. Additional Details of Certification Testing (using crib wood) of Wood Stoves and Pellet Stoves Certified by EPA between January 1, 2010 and May 30, 2014. All EPA-

certified wood heaters that are offered or advertised for sale in the United States are subject to the current (1988) New Source Performance Standard (NSPS) for New Residential Wood Heaters under the Clean Air Act (40 CFR part 60, subpart AAA). These EPA-certified appliances are required to meet the particulate emissions limit of 7.5 grams per hour (g/hr) for non-catalytic wood heaters and 4.1 g/hr for catalytic wood heaters.<sup>1</sup> The model line certifications are based primarily on testing of representative stoves by EPA-accredited test laboratories according to EPA Method 28. Method 28 and the NSPS require testing for each of four burn rate categories. Category 4 is the maximum burn rate. Category 1 is the minimum burn rate. Categories 2 and 3 are in

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<sup>1</sup> Under state law, wood stoves offered for sale in the state of Washington must meet a particulate emissions limit of 4.5 g/hr for non-catalytic wood stoves and 2.5 g/hr for catalytic wood stoves.

between. In the EPA's February 3, 2014, proposal, we proposed to update and strengthen the existing emission limits for these wood heaters over a 5-year period. One of the aspects of the proposal included requiring compliance for each of the individual burn rates rather than just the weighted average. These additional data supplement the previous data in the docket, which are for wood stoves certified prior to January 1, 2010.

As of May 30, 2014, the EPA has certified approximately 1,000 wood and pellet stove model lines that comply with the current NSPS. Summary information, including weighted emission averages, for these stoves is located at:

*<http://www.epa.gov/Compliance/resources/publications/monitoring/caa/woodstoves/certifiedwood.pdf>.*

From February 1988 to December 31, 2009, the EPA certified over 900 wood stove model lines. Particulate matter emissions by burn rate for most of the stoves in production on December 31, 2009, were summarized by the Hearth, Patio and Barbecue Association (HPBA) in a database for the EPA and the EPA included it in the docket prior to the February 3, 2014, proposal.

Since December 31, 2009, the EPA has certified over 100 wood stove model lines that comply with the current NSPS. The EPA is announcing the availability of detailed emissions data for each of these model lines certified since December 31, 2009. Manufacturers and laboratories previously used all-encompassing CBI claims to restrict public access to these emission data. The EPA has gone through the official CBI process to release the emission data.

The following data, for each model line certified since December 31, 2009, are available in the docket for the proposed rule

(<http://www.regulations.gov/#!docketDetail;D=EPA-HQ-OAR-2009-0734>):

- Year of certification;
- Average weighted emission rate;
- Device type (i.e., catalytic stove, non-catalytic stove, or pellet stove);
- EPA test method used (e.g., 5G or 5H); and
- Emission results for individual burn categories for all burn rates – Categories 1, 2, 3 and 4. In some cases, there are multiple test runs for some burn rate categories.

The EPA asks for comments on these data and how they may influence the final rule.

2. Details of Cord Wood Testing by Two Manufacturers of Their EPA-certified Catalytic Wood Stoves. The EPA has received emissions test data from two catalytic wood stove manufacturers that show their EPA-certified wood stoves tested using cord wood -- and making no design changes to adjust for crib wood versus cord wood in the tests -- have similar emissions as stoves tested using crib wood. That is, the test data for an EPA-certified Woodstock Soapstone stove and two EPA-certified stoves produced by another manufacturer show particulate emission rates (g/hr) using cord wood that are equal to or less than the corresponding test data using crib wood for all burn rates. The EPA asks for comments on these data and how they may influence the final rule.

3. Details of Cord Wood Testing by Brookhaven National Laboratory (BNL), under Contract to the EPA, of an EPA-certified Noncatalytic Wood Stove. Numerous comments on the February 3, 2014, proposal suggest that manufacturers tune their stoves to the EPA crib wood certification test method and that they would need to re-tune their stoves for the proposed Step 2 cord wood certification test method. We believe this is true and that manufacturers will soon adjust the combustion air flows, directions and



proportions to better match the change in hydrocarbon volatilization rate due to the difference in surface area to volume ratio for crib wood versus cord wood. However, numerous non-catalytic stove manufacturers have indicated that they are waiting for the proposed NSPS revisions to become final before they undergo the expense of such testing. At this time, no manufacturer has submitted particulate matter emissions test data for non-catalytic wood stoves tuned to burn cord wood during tests similar to the EPA certification tests or the ASTM (formerly known as the American Society for Testing and Materials) draft cord wood test method.

In June 2014, BNL (under an EPA contract) conducted new emissions testing of a popular non-catalytic EPA-certified wood stove using cord wood. Existing EPA certification test data for crib wood based on the current EPA Test Method 5G (<http://www.epa.gov/ttnemc01/promgate/m-05g.pdf>) were compared to the new test data for using cord wood (with no stove design changes). Use of existing crib wood data were used for the comparison in order to minimize the cost of the additional testing. We note that this raises the question whether new crib wood testing would have produced similar results as the previous crib wood testing. Also, we note that the new cord wood testing was conducted with Method 5H, whereas the previous certification testing was conducted with Method 5G. The results of the test show:

a. For a popular, current model non-catalytic stove that was not adjusted by the manufacturer for burning cord wood instead of crib wood during the certification test, the emission test results can be significantly higher than the crib emission test results. As discussed above, the proposed Step 2 reasonably anticipates that the manufacturers would adjust the combustion air flows, directions and proportions to better match the change in

hydrocarbon volatilization rate due to the difference in surface area to volume ratio for cribs versus cord wood. However, that was not done for this new test series.

b. Repeatability of cord wood test method results can sometimes be very good. For example, the results for three replicate tests for burn rate Category 4 (the maximum burn rate) were within 15 percent of each other.

c. Higher moisture content of the fuel can increase particulate matter emissions.

The complete BNL test report and summary have been added to the docket for the proposed rule at: <http://www.regulations.gov/#!docketDetail;D=EPA-HQ-OAR-2009-0734>. The EPA asks for comments on these data and how they may influence the final rule.

**List of Subjects in 40 CFR Part 60**

Environmental protection, Administrative practice and procedure, Air pollution control, Carbon monoxide, Hazardous substances, Intergovernmental relations, Particulate matter, Reporting and recordkeeping requirements.

Dated: June 24, 2014.

Mary E. Henigin,  
Acting Director, Office of Air Quality Planning and Standards.

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